



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,749	12/21/2001	Rudiger Hauschild	71980/56667	8823

21874 7590 10/09/2003

EDWARDS & ANGELL, LLP
P.O. BOX 9169
BOSTON, MA 02209

EXAMINER

WALSH, BRIAN D

ART UNIT PAPER NUMBER

3722

DATE MAILED: 10/09/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/019,749

Applicant(s)

HAUSCHILD ET AL.

Examiner

Brian D. Walsh

Art Unit

3722

-- Th MAILING DATE of this communication appears on th cover sheet with the correspondence addr ss --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other: _____

FINAL ACTION

The Examiner notes that Applicant has made a significant modification to both the specification and the claims in changing the “wear resistant cutting blade edge” to a “non-cutting blade edge.” The Examiner has determined that this alone does not constitute new matter since Applicant disclosed the cutter blade as having a “non-cutting blade edge” in the original Abstract to the specification (original specification, page 12, line 11). However, a rejection to claim 12 advising new matter is included since the original specification discloses elements relating only to the wear-resistant cutting blade edge.

Information Disclosure Statement

1. The Examiner notes that, though the IDS (PTO-1449) was noted as an attachment in the Office Action, paper no. 7, 4/22/03, it appears a copy of the IDS was not mailed to Applicant. A copy of that IDS is included herein.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 12 and 22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant

Art Unit: 3722

art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant has amended the specification and claims to include a non-cutting blade edge. As stated above, this amendment alone does not constitute new matter. However, the original and substitute specifications set forth elements related to a cutting blade *with a cutting edge* (Emphasis by Examiner). The amendment to the specification alters the scope of the invention in that the invention is now drawn to adding features (such as the wear resistant covering applied to the leading face) to a tool without cutting edges wherein the invention originally was described as a tool with cutting edges. The abstract is the sole basis for adding this feature and the original abstract submitted did not mention any wear-resistant coverings.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 11 – 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term “cutter blade” in claims 11 - 30 is used by the claim to mean a tool without cutting edges, while the accepted meaning clearly involves a tool with cutting edges. The term is indefinite because

Art Unit: 3722

the specification does not clearly redefine the term. The specification and claims explicitly set forth a “milling tool.”

5. Claims 11 and 21 explicitly disclose a milling-type tool that includes a blade which is rotated and driven in a direction transverse to the axis of rotation that is known to perform a cutting action. Applicant’s assertion that the blade does not include cutting edges renders the claims indefinite and unclear since it is unclear how a “cutting blade” that clearly operates in a way known in the art somehow fails to possess cutting edges. Alone, the use of the element “cutting blade” with the limitation “without cutting edges” is unclear. The Examiner notes that the intended use of the tool (i.e. for machining “chipless” materials) is interpreted as intended use and is not a physical limitation of the tool. Furthermore, the Examiner has determined that this intended use does produce “chips” since the tool is used on a workpiece and produces scrap material.

The claims will be examined as best understood.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 11 – 15, 18, 19, 21 – 25, 28 and 29 are rejected, as best understood, as necessitated by amendment, under 35 U.S.C. 102(b) as being anticipated by Williams.

Art Unit: 3722

Regarding claims 11, 12, 18 and 19, Williams discloses a shank-end milling-type tool comprising a shank portion (1) having a longitudinal axis, a first end that can be detachably connected to a drive device and second end with a groove-shaped recess (2) extending in the longitudinal direction, a cutter blade (4, 4a, 4b, 19 and 27) in the groove and fixedly attached to the shank having a leading flat face in the direction of use wherein the blade made of steel and is provided with a wear resistant blade edge on the leading face (Col. 2, lines 43 – 53).

Williams discloses in figures 2, 2a, 3b, 4, 5, 6, 8 and 9 that the cutter blade is in the form of a flat bar.

Regarding claims 13 – 15, Williams discloses in figures 2a and 2b that the leading and trailing edges are rounded and cut-corner designs.

Regarding claims 21 – 25, 28 and 29, Williams inherently teaches the method steps as set forth in the above rejections.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 16 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams in view of Schweikert et al.

Art Unit: 3722

Williams discloses all of the elements as set forth in the above rejections, however, Williams fails to disclose the cutter blade comprises a curved surface having a convex face, parallel to the longitudinal axis, pointing toward a direction of rotation during use.

Regarding claim 16, Schweikert et al. discloses a milling tool similar to the instant invention as well as Williams, comprising a shank-end tool with a cutter blade comprising a curved surface having a convex face, parallel to the longitudinal axis, pointing toward a direction of rotation during use (see figure 6).

Regarding claim 26, Schweikert et al. inherently discloses the method steps as set forth in the above rejection since Applicant has set forth no further limiting method steps or article limitations.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the blade of Williams to include the curved surface of Schweikert et al. since Schweikert et al. teaches the use of this surface in order to overcome vibration and high wear problems (Col. 1, lines 29 – 31 and 36 – 38).

8. Claims 17 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams in view of Ogawa.

Williams discloses all of the elements as set forth in the above rejections, however, Williams fails to disclose the cutter blade comprises surfaces that operate in a “fan-like” action.

Regarding claim 17, Ogawa discloses a cutting tool similar to the instant invention wherein the blade includes a shovel-like arrangement with blades that are sloped with an angle relative to the longitudinal axis to produce a fan-like action.

Art Unit: 3722

Regarding claim 27, Ogawa inherently discloses the method steps as set forth in the above rejection since Applicant has set forth no further limiting method steps or article limitations.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the blade of Williams to include the shovel-like blade of Ogawa since Ogawa discloses this arrangement on the blade in order to reduce cutting friction and prevent the blade edge from being burned (Col. 1, lines 34 – 67).

9. Claims 20 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams in view of Freitag.

Williams discloses all of the elements as set forth in the above rejections, however, Williams fails to disclose the shank comprises a hollow cylindrical body at least at the second end.

Freitag discloses a cutter similar to the instant invention for cutting through a Styrofoam workpiece comprising a hollow cylindrical shank (40). See figure 3.

Regarding claim 30, Freitag inherently discloses the method steps as set forth in the above rejection since Applicant has set forth no further limiting method steps or article limitations.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the shank of Williams to include the hollow shank of Freitag since Freitag inherently teaches this void in order to experience a weight reduction of the device.

Response to Arguments

10. Applicant's arguments filed 21 July, 2003 have been fully considered but they are not persuasive.

Applicant notes the amendment to the specification and claims regarding the “wear resistant blade edge.” The Examiner’s response to this aspect of the amendment is noted above.

Applicant sets forth arguments relating to the content of the amendment (paper no. 8, filed 21 July, 2003), specifically, the aspect of the invention which requires the cutting blade does not have cutting edges and argues that the references include tools which do have a cutting edge. The Examiner agrees in that the cited references do have cutting edges. In the art, removing material from a workpiece by use of a metal tool inherently requires the use of a “cutting edge.” Therefore, the Examiner has determined that, contrary to Applicant’s remarks and arguments, the instant invention certainly does have cutting edges. The base reference, Williams (U.S. Pat. No. 2,621,548, 12-1952) shows cutting tools that are identical to the instant invention in the area of the “cutting edge.”

Applicant next mentions the action of the instant invention in cutting a sand mold and details how the scrap is formed. None of these limitations are recited in the claims. Applicant argues the manner in which waste material is produced and uses this as a basis for justifying the lack of cutting edges in the instant invention. Applicant further justifies this claim by stating the plane of the tool forms a right angle with the plane of the cutting face of the tool. The Examiner notes that this limitation is not in any of the claims. Even so, it appears that Williams meets this limitation, should it be entered and further justifies the use of Williams under 35 USC 102(b).

Art Unit: 3722

Applicant argues the ability of Williams to perform high-speed milling of sand molds. Applicant has provided documentation for milling with HSS and Cobalt HSS. Applicant has not provided information or argued Williams' other preferred material, carbide, and therefore the Examiner assumes its use in this environment is permissible.

Furthermore, regarding the method claims (21 – 30), Applicant has only set forth in the preamble an “intended use” for the milling tool and does not refer back to this intended use inside the body of the claims. Please refer to MPEP 2111.02 [R-1] which reads (in part):

PREAMBLE STATEMENTS RECITING PUR-POSE OR INTENDED USE

The claim preamble must be read in the context of the entire claim. The determination of whether preamble recitations are structural limitations or mere statements of purpose or use “can be resolved only on review of the entirety of the [record] to gain an understanding of what the inventors actually invented and intended to encompass by the claim.” *Corning Glass Works*, 868 F.2d at 1257, 9 USPQ2d at 1966. **If the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction.** *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165 (Fed. Cir. 1999). See also *Rowe v. Dror*, 112 F.3d 473, 478, 42 USPQ2d 1550, 1553 (Fed. Cir. 1997) (“where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention, the preamble is not a claim limitation”); *Kropa v. Robie*, 187 F.2d at 152, 88 USPQ2d at 480-81 (preamble is not a limitation where claim is directed to a product and the preamble merely recites a property inherent in an old product defined by the remainder of the claim); *STX LLC v. Brine*, 211 F.3d 588, 591, 54 USPQ2d 1347, 1350 (Fed. Cir. 2000) (holding that the preamble phrase “which provides improved playing and handling characteristics” in a claim drawn to a head for a lacrosse stick was not a claim limitation). >Compare *In re Cruciferous Sprout Litig.*, 301 F.3d 1343, 1346-48, 64 USPQ2d 1202, 1204-05 (Fed. Cir. 2002). (Emphasis by Examiner).

According to the MPEP, the elements of the claims relating to a heat-resistant sand mold are not seen as limitation(s) in the claims.

The remaining arguments by Applicant are drawn to the Applicant's assertion that the references lack tools without cutting edges, an argument that has been addressed at length in the new 112 rejections and in the Examiner's comments above.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Examiner has included an additional reference Reynolds et al. (U.S. Pat. No. 4,541,757) which teaches a milling tool for machining solid propellants. The Examiner included this reference since Reynolds et al. teaches a milling tool for use on a block of non-metallic substance (solid propellant which is known to be similar in texture and machining properties to the intended use of the instant invention). Yet Reynolds et al. still teaches a tool with cutting edges that produces chips, which further justifies the Examiner's position in that regard.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

13. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 3722

Faxing of Responses to Office Actions

14. In order to reduce pendency and avoid potential delays, TC 3700 is encouraging FAXing of responses to Office Actions directly into the Group at (703) 872-9302. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a PTO deposit account. Please identify the examiner and art unit at the top of your cover sheet. Papers submitted via FAX into TC 3700 will be promptly forwarded to the examiner.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Walsh whose telephone number is (703) 605-0638. The examiner can normally be reached on Monday - Friday 7:30 A.M. to 4:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington can be reached on (703) 308-2159. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.



BDW
October 6, 2003



A. L. WELLINGTON
SUPERVISOR OF PATENT EXAMINER
TECHNOLOGY CENTER 3700